



A critical synthesis of interventions to reduce stigma attached to mental illness

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Background: Interventions have been developed and implemented to reduce the stigma attached to mental illness. However, mental healthcare users are still stigmatised.

Objective: The objective of this study was to critically synthesise the best available evidence regarding interventions to reduce stigma attached to mental illness.

Method: An exploratory and descriptive research design was followed to identify primary studies; systematic review identified primary studies answering this research question: What best evidence is available regarding interventions to reduce the stigma attached to mental illness? A search was done on selected electronic databases. Seventeen studies ($n = 17$) were identified as providing evidence that answered the research question. The following instruments were used: Critical Appraisal Skills Programme, John Hopkins Nursing Evidence-Based Practice research evidence appraisal tool and the Academy of Nutrition and Dietetics *Evidence Analysis Manual*. The study was submitted to the Post-graduate Education and Research Committee of the School of Nursing Science at Potchefstroom Campus of North-West University for approval.

Results: Results indicated some interventions that reduce the stigma attached to mental illness, such as web-based approaches, printed educational materials, documentary and anti-stigma films, as well as live and video performances.

Conclusions: Humanising interventions seems to have a positive effect on reducing stigma attached to mental illness. From the results and conclusions recommendations were formulated for nursing practice, nursing education and research.

Agtergrond: Ingrypings is ontwikkel en geïmplementeer om die stigma verbonde aan geestesongesteldhede te verminder. Die persone wat aan geestesongesteldhede ly, ondervind egter steeds dat daar 'n stigma aan hulle kleef.

Doelstellings: Die doel van die studie was om die beste beskikbare voorbeelde van intervensies om stigmatisering van geestesongesteldhede te verminder, krities saam te vat.

Metode: 'n Verkenning en beskrywende navorsingontwerp is gevolg om primêre studies te identifiseer. 'n Sistematiese oorsig is gekies as metode om primêre studies te identifiseer om die volgende navorsingsvraag te beantwoord: Wat is die beste beskikbare voorbeelde van ingrypings om die stigma verbonde aan geestesongesteldhede te verminder? 'n Ondersoek is gedoen op 'n uitgesoekte elektroniese databasis.

Resultate: Tydens die keuring van studies is 17 studies geïdentifiseer ($n = 17$) as bewyslewering en wat die navorsingsvraag beantwoord. Die volgende instrumente is gebruik: 'Critical Appraisal Skills Programme', 'John Hopkins Nursing Evidence-Based Practice', 'Research Evidence Appraisal Tool and Evidence Analysis Manual', en 'Academy of Nutrition and Dietetics'.

Gevolgtrekking: Die studie is aan die Nagraadse Onderrig- en Navorsingskomitee van die Skool van Verpleegkunde van die Potchefstroomkampus, Noordwes-Universiteit, voorgelê vir goedkeuring. Aanbevelings is geformuleer vir die verpleegpraktyk, verpleegonderrig en navorsing.

Background to and rationale of the study

According to Sartorius and Schultze (2008:1) the stigma attached to mental illness is the main obstacle to better mental health care for those users that need it. It influences the quality of life of people who have such illnesses as it limits their access to health care, mental health care and resources such as employment and housing. Stigma also affects their families, their communities and the health service staff, including nurses, that deal with psychiatric disorders (Corrigan, Kerr & Knudsen 2005:185; El-Badri & Mellsoop 2007:196; Kapungwe *et al.* 2010:193).



In an attempt to reduce the stigma attached to mental illness, leaders in the United States of America sponsored the first White House Conference focusing on mental illnesses and mental health issues in 1999 (Pinto-Foltz & Logsdon 2009:32). A report was released (Palpant *et al.* 2006:3) emphasising the harmful results of stigmatisation of mental illness in terms of creating barriers for people with mental illness seeking treatment (Anon 2001:1055; Greenall 2006:14). Furthermore, Ross and Goldner (2009:560) confirm that stigma seems to be a barrier to obtaining treatment, even when the primary reasons for admission of people with mental illness are not related to their pre-existing psychiatric disorders. In addition, stigmatisation hinders mental healthcare users' ability to integrate into society and to recover due to personal harassment, social isolation and economic exclusion (Kapungwe *et al.* 2010:193).

Interventions have been developed and implemented to eliminate and prevent the stigma attached to mental illness, such as awareness campaigns, outreach programmes and involvement of families and communities (Sartorius 2002:1470; Pinto-Foltz & Logsdon 2009:33). The South African Depression and Anxiety Group, South Africa's largest mental health initiative, aims at building awareness about mental health, destigmatising mental illness and educating people across the country about mental wellness (Anon 2007:1). Therefore, the possibility of reducing stigma through interventions exists; however, most African countries have no mental health policies, programmes or action plans pertaining to reducing stigma (World Health Organization [WHO] 2004:13).

Problem statement

In light of the fact that mental healthcare users are stigmatised (Gaebel & Baumann 2003:657), and in spite of availability of interventions and policies to reduce such stigma, there is a need for a comprehensive critical synthesis of interventions to reduce stigma attached to mental illness. Such a synthesis might inform policy and mental health care on reducing stigma in a comprehensive manner. However, a critical synthesis of such interventions could not be found, indicating a need to explore, describe and critically synthesise best evidence on interventions to reduce stigma attached to mental illness. Healthcare providers, including nurses, would be able to access and implement this information, which might improve the quality of life of healthcare users.

Research objectives

The objective of the study was to provide a critical synthesis of the best available evidence regarding interventions to reduce stigma attached to mental illness by means of a systematic review. The findings of the study contributed to recommendations for nursing practice (particularly mental health care), nursing education and further research. These recommendations are discussed in this article, and might also be used by other healthcare providers involved in the care of mental healthcare users.

Definition of key concepts

Stigma: A stigma is a social attitude – for example towards mental illness – that is deeply discrediting and creates a position of social disgrace (Stuart 2005:22). In this study stigma refers to attitudes towards mental illness that need an intervention to be reduced.

Mental illness/mental disorder: This refers to a spectrum of cognitions, emotions and behaviours that interfere with interpersonal relationships as well as functions required for work, at home and in school (Overton & Medina 2008:143; American Psychiatric Association 2000:xxxi; Uys & Middleton 2010:834). In this study mental illness and mental disorder are used interchangeably, and are seen as a psychiatric condition that needs interventions to reduce the stigma attached to it.

Mental health: According to the WHO (cited by Uys & Middleton 2010:16) mental health is 'a state of well-being in which the individual realises his or her own abilities; can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community'.

Research method and design

Design

The research design for this study was explorative and descriptive in nature and aimed at exploring and describing the best available scientific evidence identified regarding interventions to reduce stigma attached to mental illness by means of a systematic review (Centre for Reviews and Dissemination 2009:48).

Research method

The research method for this study involved a systematic review. Petticrew (2003:753) describes the systematic review as a review that strives to comprehensively identify, track down and appraise all literature on a certain topic. The steps of a systematic review (American Dietetic Association 2008:1–6) were followed, namely formulating a focused review question, gathering and classifying evidence, performing a critical appraisal, data extraction and synthesis (summarising the evidence) and drafting the concluding statements. The research method is discussed below according to the five steps of systematic review.

Step 1: Formulation of a focused review question: The first step in performing a systematic review is to formulate a primary research question, which in this study was: What best evidence is available regarding effective interventions to reduce stigma attached to mental illness? The PICOT (population, interventions, comparison, outcome and time limit) format was used to formulate the question: population – studies related to stigma attached to mental healthcare users; interventions that aim to reduce stigma as a barrier to access resources in the community, such as



employment and health care; comparison – not applicable; outcome – reduce stigma attached to mental illness; time limit – not applicable.

Step 2: Gathering and classifying the evidence: The aim of this step was to search for all studies relevant to the research question. Data sources such as electronic databases, including ProQuest, Ebscohost, ScienceDirect, SA-Nexus, Web of Knowledge, Scopus, Google and the Cochrane Library were used. Thereafter bibliographies of individual studies were reviewed to identify additional relevant studies, and hand searches of pertinent journals were also undertaken by scanning through journals that are not electronically available and to pick up additional references and publications that were too recent to appear on electronic indexes. Furthermore, a grey literature search was identified (including, for example, abstracts and presentations) that was relevant to the research topic to compensate for inaccurate databases (Simpson, Sweetman & Doig 2010:2). The search included all studies published from January 2001 until December 2012. An experienced librarian at North-West University assisted with the search strategy, assisted by a second person with experience in systematic review in order to further ensure rigour. Figure 1 provides an overview of the search strategy that was implemented.

Documentation: According to Higgins and Green (2008:144) the search needs to be documented in detail throughout the process to ensure accurate reporting to the extent that all searches of the databases are reproducible. Accurate record-keeping was maintained throughout the process for audit purposes.

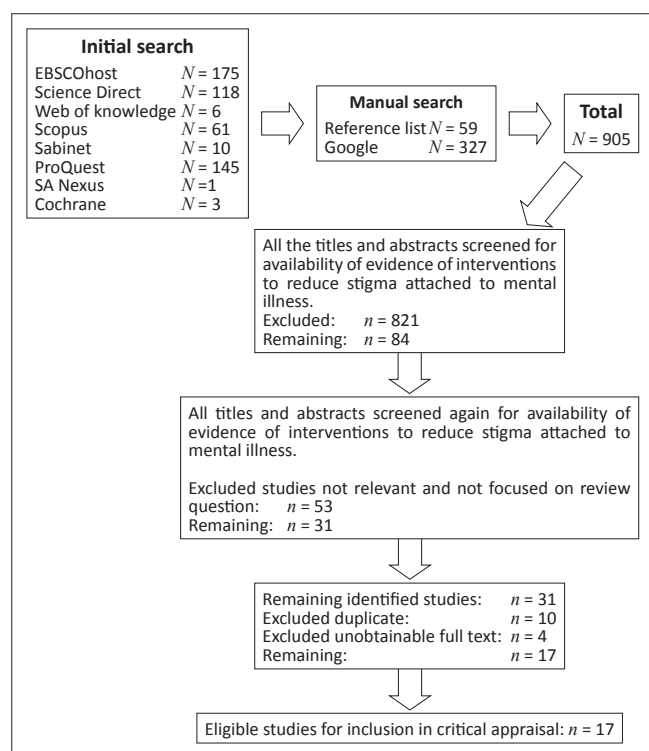


FIGURE 1: Realisation of search strategy.

Selection of studies to be included: Inclusion and exclusion criteria were used to ensure that the boundaries of the review question were clearly defined, that is whether studies should be included or excluded. Criteria for this study were as follows:

- Population: Mental healthcare users (male and female).
- Setting: Healthcare institutions, outpatient departments, or community.
- Language: All papers written in English or other languages translated into English.
- Study designs: All primary studies that discuss critical interventions to reduce the stigma attached to mental illness. Randomised controlled trials (RCTs), non-randomised intervention studies, case studies, cross-sectional studies, case reports and qualitative studies were included.
- Publication included: Conference proceedings/grey literature, discussion papers, report booklets and unpublished research theses.
- Time limit: Studies published from 2001 to 2012.

Exclusion criteria included patients with medical conditions, duplicates, studies that did not address the review question and studies before the set time period. All studies identified were critically appraised as explained in Step 3.

Step 3: Performing the critical appraisal: All of the articles in this study were critically appraised to find out whether they answered the review question and met the inclusion criteria. The critical appraisal was conducted according to the hierarchy and classification of studies as outlined in Table 1.

Quality assessment: The methodological quality of studies included was then appraised in order to determine the validity of the results (Abalos *et al.* 2001). Table 2 provides the ratings used to determine the quality of the methodology of studies, adapted from the Evidence analysis manual (EAM) (Academy of Nutrition and Dietetics 2012:43), Critical Appraisal Skills Programme (CASP) (2006) and Johns Hopkins Nursing Evidence-based Practice (JHNEBP) research evidence appraisal (Newhouse *et al.* 2007:207).

TABLE 1: Hierarchy and classification of studies.

Category	Primary reports	Category	Secondary reports
A	RCT Cluster randomised trial Randomised crossover trial	M	Meta-analysis or systematic review Decision analysis Cost-benefit analysis Cost-effectiveness study
B	Prospective cohort study Retrospective cohort study		
C	Non-randomised control trial Non-randomised crossover trial Case control study Time series study Diagnostic, validity or reliability study	R	Narrative review (review article) Consensus statement Consensus report
D	Non-control trial Case study or case series Other descriptive study Cross-sectional study Trent study Before and after study	X	Medical opinion

Source: Academy of Nutrition and Dietetics, 2012, Research and strategic business development evidence analysis manual, viewed 06 June 2012, from www.eatright.org RCT, Randomised controlled trials.



A second reviewer independently appraised the selected studies for methodological quality and for inclusion in or exclusion from the systematic review. The checklists were completed and filed for audit purposes. Table 3a, Table 3b and Table 3c provides an overview of the critical appraisal.

Step 4: Data extraction and synthesis: The characteristics and findings of the selected studies were extracted and are presented in Table 3. All data extracted were graded on the strength of their evidence supporting the conclusions or recommendations of the study (see Table 3a, Table 3b and Table 3c) (Academy of Nutrition and Dietetics 2012:70). The extracted data were synthesised by inspecting the data for relationships between concepts as well as patterns or trends (Mouton 2001:108). The data could be synthesised into themes, forming a critical synthesis of best evidence on interventions to reduce stigma attached to mental illness.

Step 5: Conclusions, limitations and recommendations: The researchers drew conclusions by reflecting on the methodology, the quality of currently available literature on interventions to reduce stigma attached to mental illness, the findings and their implications for health care, namely mental health care provided to mental healthcare users, to reduce stigmatisation.

Rigour

Rigour in the systematic review was ensured by means of critical appraisal (Akobeng 2005:845) and through ensuring that the studies included were applicable to the patient population under study in the review (O'Mathuna, Fineout-Overholt & Kent 2008:106).

Findings

Themes identified in this study could be clustered together into four main findings. Table 4 provides an overview of these findings.

Finding 1: Web-based and computer-based education, and humanising approaches are effective in reducing stigma attached to mental illness amongst mental health professionals

Educational interventions found to be effective in reducing stigma attached to mental illness included a web-based approach and/or computer-assisted education, as well as a humanising and personalising approach in classroom teaching about mental illness.

A web-based approach in education of mental health professionals on mental illness was effective in reducing

the stigma attached to mental illness amongst mental health professionals. It was found that the Internet may be a powerful outreach tool in disseminating anti-stigmatisation information to mental health professionals (Bayar *et al.* 2009:226–230). Furthermore, computer-assisted education and reading of printed educational materials were used with special education teachers who work with children with learning disabilities, intellectual disabilities, and/or other mental health problems, and who can also specialise in teaching children with speech and hearing disorders. The intervention proved to be an effective tool for reducing the level of stigma towards psychiatric disorders immediately afterwards; however, after six months the effect of the conventional education (reading material) decreased substantially (Finkelstein, Lapshin & Wasserman 2008:204–214).

A further intervention that proved effective in reducing stigma attached to mental illness was using a humanistic approach in teaching and learning about mental illness (Mann & Himelein 2008:545–551). This humanistic approach was tested against a traditional approach. An experimental class emphasised a humanising approach, namely reading first-person narratives by authors with depression, schizophrenia, and bipolar disorder. In the traditional approach students learned *Diagnostic and Statistical Manual of Mental Disorder* (DSM-IV) (American Psychiatric Association 2000) criteria directly, and read excerpts written by clinicians rather than patients. The traditional approach failed to reduce stigma towards mental illness.

It was furthermore found that naturalistic anti-stigma interventions, such as encouraging personal encounters included in university programmes, can influence attitudes in a de-stigmatising direction, possibly due to personal encounters with real persons suffering from mental illness (Markström *et al.* 2009:660–665). For example, live and videotaped presentations demonstrated a decrease in stigmatising of people with serious mental illness. However, it may be that live performances in the classroom can have a stronger affective impact on students compared with video presentations. In addition, educational interventions that use theatrical presentations by actors living with psychiatric disabilities can allow individuals to be viewed as respected performers and educators (Faigin & Stein 2008:594–607). Similarly, studies by Kerby *et al.* (2008:345–349) found that anti-stigma films about the human experience of having a mental illness resulted in significant improvement in general attitudes of medical students towards persons with mental illness. These films conveyed to the viewer first-hand experiences of being diagnosed with a serious mental illness.

TABLE 2: Ratings for methodological quality of studies.

Description in words	EAM quality rating	CASP score quality rating	JHNEBP quality rating	JHNEBP strength of evidence
High	(+)	≥ 8/10	≥ 5/6	RCT Level I
Medium/Neutral	(Ø)	≥ 5/10 to <8/10	3/6 to 4/6	Quasi-experimental studies Level II
Low	(-)	≥ 1/10 to < 5/10	1/6 to 2/6	Non-experimental studies Level III

EAM, Evidence analysis manual; JHNEBP, Johns Hopkins Nursing Evidence-based Practice; CASP, Critical Appraisal Skills Programme.



TABLE 3a: Critical appraisal - Level I.

Number	Reference	Settings and sample size	Intervention	Rigour
1	Bayar <i>et al.</i> (2009) Reducing mental illness stigma in mental health professionals using a web-based approach.	Setting: • Turkey. Sample: • 205 psychiatrists and residents in a psychiatric ward.	Web-based mental disorder stigma education programme. Control group: • Education that is not web-based. Follow-up: • Not indicated (one time intervention).	A clearly focused question was stated. An appropriate design was applied and a sample was allocated into a control and study group. The data collection was clearly stated. The results were precisely and clearly presented. Follow-up was not done. Blinding was not done. Overall the study was well planned, executed and reported. Class A EAM = (+) positive CASP 6/10
2	Chan <i>et al.</i> (2009) Combining education and video-based contact to reduce stigma of mental illness: 'The same or not the same' anti-stigma programme for secondary schools in Hong Kong.	Setting: • Secondary schools, Hong Kong. Sample: • 255 Grade 9 students, ages ranging between 13 to 18 years.	Intervention: • Education followed by video-based contact (education video), video-based contact followed by education (video education) condition. Control group: • Education video. Follow-up: • One month.	A clearly focused question was stated. An appropriate design was applied. All participants were accounted for in the conclusion. Blinding was not used. The data collection was done and the results were precise and clearly presented. All outcomes were considered. Follow-up was done and adverse events reported. Control group not feasible. Class A EAM = (+) positive CASP 8/10
3	Corrigan, Larson, Sells, Niessen and Watson (2007) Will filmed presentations of education and contact diminish mental illness stigma?	Setting: • Community college Chicago area. Sample: • 244 people.	Intervention: • Education contact video-taped. Control group: • Education video. Follow-up: • One week.	A clearly focused question was asked. An appropriate design was applied. Samples were allocated in control and study groups. The data collection was clearly stated. The results were precisely and clearly presented. Follow-up was not done. Blinding was not done. Overall the study was well planned, executed and reported. Class A EAM = (+) positive CASP = 8/10
4	Finkelstein, <i>et al.</i> (2008) Randomised study of different anti-stigma media.	Setting: • Herzen Russian State Pedagogic University (St Petersburg), School of special university. Sampling: • 193 graduate students.	Intervention: • Computer-mediated intervention and printed educational materials. Control group: • Conventional intervention. Follow-up: • 6 months.	A clearly focused question was stated. An appropriate design was applied and samples were allocated into control and study groups. The data collection was clearly stated. No blinding was done. Follow-up was done. All participants who entered were accounted for in the conclusion. Overall the study was well planned, executed and reported. Class A EAM = (+) positive CASP = 8/10
5	Kerby <i>et al.</i> (2008). Anti-stigma films and medical students' attitudes towards mental illness and psychiatry.	Setting: • Non-statutory mental health organisations in Nottingham Sample: • 46 participants were fourth-year medical undergraduates.	Interventions: • Two anti-stigma films were used. The first film was <i>A human experience</i> , 15 minutes long. The second film was <i>A day in the mind of...</i> and 12 minutes long. Control intervention: • The control film was a 25-minute documentary unrelated to mental illness or psychiatry and matched for visual format. Follow-up: • Eight weeks.	A clear statement of the aims of the research was included. An appropriate design was applied, and the sample was allocated into a control and study group. The data collection was clearly stated. The results were precisely and clearly presented. Follow-up was done and all participants who entered were accounted for in the conclusion. Blinding done: a single mask. The study was well planned and executed and reported a high rating. Class: A EAM = (+) positive CASP 7/10
6	Luty <i>et al.</i> (2007) Effectivity of changing minds campaign factsheets in reducing stigmatised attitudes towards mental illness.	Setting: • Royal College of Psychiatrists, Britain. Sample: • 158.	Intervention: • Factsheets developed from the 'Changing Minds' campaign. Control group: • Received same factsheet but answered on either schizophrenia or alcohol. Follow-up: • Immediate results.	A clearly focused question was stated. An appropriate design was applied, and the sample was allocated into control and study group. The results were precisely and clearly presented. Follow-up was not done and all participants that entered were accounted for in the conclusion. Blinding not done. Class: A EAM = (+) Positive CASP 6/10
7	Mann and Himelein (2008) Putting the person back into psychopathology: an intervention to reduce mental illness stigma in the classroom.	Setting: • Small public university. Sample: • 53 students.	Intervention: • study 1 • Humanising instruction. Control group: • Traditional instruction (diagnostic approach). Follow-up: • Not done.	A clearly focused question was asked. An appropriate design was applied. Samples were allocated into a control and study group. No blinding done. No follow-up. The two studies were well planned, executed and reported. Class A EAM : (+) positive CASP = 8/10
8	Penn <i>et al.</i> (2003) The effects of a documentary film about schizophrenia on psychiatric stigma.	Setting: • University of North Carolina-Chapel Hill. Sample: • 163 undergraduates.	Intervention group: • Participants who viewed documentary films. Control group: • Seeing a documentary about non-psychiatric population. Follow-up: • Not specified.	A clearly focused question was stated. An appropriate design was applied, and the sample was allocated into a control and study group. The data collection was clearly stated. The results were precisely and clearly presented. Blinding was done. Overall the study was well planned, executed and reported. High-quality rating: EAM = (+) positive Class A CASP = 8/10

Note: RCTs ($n = 12$) (JHNEBP strength of evidence: Level I); Quasi-experimental research, $n = 4$ (JHNEBP strength of evidence level II); Non-experimental research, $n = 1$ (JHNEBP strength of evidence level III).

EAM, Evidence analysis manual; JHNEBP, Johns Hopkins Nursing Evidence-based Practice; CASP, Critical Appraisal Skills Programme.

Table 3a continues on the next page →



TABLE 3a (Continues...): Critical appraisal - Level I.

Number	Reference	Settings and sample size	Intervention	Rigour
9	Pinto-Foltz <i>et al.</i> (2011) Feasibility, acceptability, and initial efficacy of a knowledge-contact programme to reduce mental illness stigma and improve mental health literacy in adolescents.	Setting: • Two public high schools in southern urban area of the United States. Sample size: • 156 female adolescents Grades 9 and 10. 95 in the intervention group, 61 in the control group.	Intervention: • In Our Own Voice. Control group: • No intervention. Follow-up: • Eight weeks.	Three focused questions were clearly stated. Appropriate design of non-blinded cluster randomised trial was applied. The data collection was clearly stated. Triangulation was used. The results were precisely and clearly presented. Class: A EAM = (+) positive CASP = 7/10
10	Pitre <i>et al.</i> (2007) The use of puppets with elementary school children in reducing stigmatising attitudes towards mental illness.	Setting: • Primary school. Sample: • 46 students, children in Grades 3 and 6.	Intervention: • Puppets programme. Control group: • Education without programme. Follow up: • Not done.	A clearly focused question was asked. An appropriate design for the children was applied and samples were indicated in the control and study group. No blinding was applied. No follow-up done. Class: A EAM = (+) positive CASP: 7/10
11	Reinke <i>et al.</i> (2004) Examining two aspects of contact on the stigma of mental illness.	Setting: • America Sample: • 164 community college students	Intervention: • <i>In vivo</i> contact that moderately disconfirms the stereotypes. (a) Videotaped contact with moderate disconfirmation of the stereotypes. (b) Videotaped contact with high disconfirmation. (c) Videotaped contact with little or no disconfirmation. Control group: • A no-stigma change control group. Follow-up: • One week.	A clearly focused question was stated. An appropriate design was applied, and samples were allocated into control and study groups. The data collection was clearly stated. Blinding not done. The results were precisely and clearly presented. Follow-up was done and all participants who entered were accounted for in the conclusion. Overall the study was well planned, executed and reported. Class A EAM = (+) positive CASP: 7/10
12	Saporito <i>et al.</i> (2011) Reducing stigma towards seeking mental health treatment amongst adolescents.	Setting: • Central Virginia. Sample: • Public high school students 159.	Intervention: • Psycho-education and contact (via DVD). Control group: • Education about tobacco. Follow-up: • Not specific.	A clearly focused question was stated. The sample was allocated into a control and study group. The data collection was clearly stated. Overall the study was well planned, executed and reported. High-quality rating. Class A EAM = (+) positive CASP = 8/10

Note: RCTs ($n = 12$) (JHNEBP strength of evidence: Level I); Quasi-experimental research, $n = 4$ (JHNEBP strength of evidence level II); Non-experimental research, $n = 1$ (JHNEBP strength of evidence level III).

EAM, Evidence analysis manual; JHNEBP, Johns Hopkins Nursing Evidence-based Practice; CASP, Critical Appraisal Skills Programme.

TABLE 3b: Critical appraisal - Level II.

Number	Reference	Settings and sample size	Intervention	Rigour
1	Faigin and Stein (2008) Comparing the effects of live and videotaped theatrical performance in decreasing stigmatisation of people with serious mental illness.	Setting: • Bowling Green State University. Sampling: • 303 under-graduate psychology students.	Intervention: • Live, scripted theatrical (direct contact) and • Videotaped presentation of the same theatrical (indirect contact). Control group: • No-presentation group. Follow-up: • One month.	A clearly focused question was stated. An appropriate design was applied. Data collection was clearly stated. The results were precise and clearly presented. Overall the study was well planned, executed and reported. Class: D JHNEBP = 5/6 EAM = (+) positive
2	Gaebel <i>et al.</i> (2008) Evaluation of the German WPA Program against stigma and discrimination because of Schizophrenia – ‘Open the Door’: Results from representative telephone surveys before and after three years of anti-stigma interventions.	Setting: • In six German cities. Sampling: • 7225 general practitioners and teachers who frequently are in contact with young people.	Intervention: • German Open the Door anti-stigma-programme. Follow-up: • Three years	A clearly focused question was stated. An appropriate design was used and sample was allocated into a control and study group. Data collection was clearly stated. Overall study was well planned, executed and reported. Class: D EAM = (+) positive JHNEBP = 5/6
3	Markström <i>et al.</i> (2009). Attitudes towards mental illness amongst healthcare students at Swedish Universities.	Setting: • Swedish Universities. Sample: • 1001 students from six universities.	Intervention group: • Naturalistic anti-stigma interventions that consist of theoretical programmes (nursing, occupational therapy and medicine). Follow-up: • Five weeks.	A clearly focused question was stated. An appropriate design was applied; it was not supplemented with qualitative data. The data collection was clearly stated. The results were precisely and clearly presented. Class: D EAM = (+) positive JHNEBP = 5/6
4	Spagnolo <i>et al.</i> (2008) Reducing stigma by meeting and learning from people with mental illness.	Setting: • Four different high schools located in • New Jersey counties (Hudson, Somerset, and Ocean). Sampling: • 277 students (adolescents).	Intervention: • Public education programme about mental illness. Follow-up: • One hour.	A clearly focused question was stated. An appropriate design was applied. Data collection was clearly stated. The results were precise and clearly presented. No control group and no follow-up. Class: D EAM = (+) positive JHNEBP = 5/6

Note: RCTs ($n = 12$) (JHNEBP strength of evidence: Level I); Quasi-experimental research, $n = 4$ (JHNEBP strength of evidence level II); Non-experimental research, $n = 1$ (JHNEBP strength of evidence level III).

EAM, Evidence analysis manual; JHNEBP, Johns Hopkins Nursing Evidence-based Practice; CASP, Critical Appraisal Skills Programme.

**TABLE 3c:** Critical appraisal - Level III.

Number	Reference	Settings and sample size	Intervention	Rigour
1	McKinney (2009) Initial evaluation of Active Minds: a student organisation dedicated to reducing the stigma of mental illness.	Setting: • 50 under-graduate classes at a university. Sampling: • 136 students.	Intervention: • Students involved in Active Minds programmes; control group: Students not involved in Active Minds programmes. Follow-up: • Eight weeks.	A clearly focused question was stated. An appropriate design was applied. Data collection was clearly stated. The results were precise and clearly presented. Overall the study was well planned, executed and reported. Class: D EAM = (+) positive JHNEBP = 5/6

Note: RCTs ($n = 12$) (JHNEBP strength of evidence: Level I); Quasi-experimental research, $n = 4$ (JHNEBP strength of evidence level II); Non-experimental research, $n = 1$ (JHNEBP strength of evidence level III).

EAM, Evidence analysis manual; JHNEBP, Johns Hopkins Nursing Evidence-based Practice; CASP, Critical Appraisal Skills Programme.

Table 4: Findings from the systematic review.

Finding	Interventions effective in reducing stigma attached to mental illness
1	Web-based and computer-based education, and humanising approaches found to be effective in reducing stigma attached to mental illness amongst mental health professionals.
2	The 'Open the Doors' anti-stigma campaign in Germany found to be effective in reducing stigma attached to mental illness amongst the general population.
3	Documentary anti-stigma films, <i>in vivo</i> contact and anti-stigma campaigns found to be effective in reducing stigma attached to mental illness amongst students.
4	Use of puppets, psycho-education and contact (via DVD) and public education programmes found to be effective in reducing stigma attached to mental illness amongst children and adolescents.

Finding 2: The 'Open the Doors' anti-stigma campaign in Germany is effective in reducing stigma attached to mental illness amongst the general population

Evaluation of the World Psychiatric Association programme implemented in Germany against stigma and discrimination because of schizophrenia, named 'Open the Doors' shows that it has proven to be effective in reducing stigma attached to mental illness on a national level (Gaebel *et al.* 2008:184–193). Key elements of this programme entailed education, protest, and contact. Anti-stigma strategies include improving mental health care and psycho-education for patients and families, involving patients and family members, anti-stigma education in the training of healthcare providers, public educational activities, and promoting social and legal action to reduce discrimination.

In contradiction to the German programme, factsheets from the Royal College of Psychiatrists' Changing Minds anti-stigma campaign for reducing stigmatised attitudes of members of the general public towards those with mental illness were largely ineffective at changing stigmatised attitudes towards schizophrenia and alcoholism (Luty *et al.* 2007:377–381).

Finding 3: Documentary anti-stigma films, *in vivo* contact and anti-stigma campaigns are effective in reducing stigma attached to mental illness amongst students

Similar to the themes in Finding 1, several studies (Penn, Chamberlin & Mueser 2003:383–391; Corrigan *et al.* 2007:171–181; Chan, Mak & Law 2009:1521–1526; Reinke *et al.* 2004:377–389) found that interventions with undergraduate students involving a documentary film on mental illness as well as *in vivo* contact significantly reduced stigma. One such example was a presentation by an individual with schizo-affective disorder who discussed his 20-year history of psychiatric symptoms, suicide attempts, multiple hospitalisation and long recovery periods, who has now made a satisfactory life and works independently

(Reinke *et al.* 2004:377–389). The findings of these studies suggest that watching the live or recorded presentations or documentary film can significantly increase knowledge and improve attitudes with regard to pity, empowerment and a reduction in coercion, segregation, social distance and perceived dangerousness.

Another effective intervention aimed at reducing stigma amongst students is Active Minds, a student organisation dedicated to reducing the stigma of mental illness (McKinney 2009:281–301). The programme offers the following to students: improvements in pharmacology to allow students diagnosed with mental illness opportunities to pursue higher education; some litigation against schools not meeting the mental health needs of students; and peer mentors for students with mental health needs, thus creating a conducive learning environment.

Finding 4: Use of puppets, psycho-education and contact (via DVD) and personal contact in public education programmes are effective in reducing stigma attached to mental illness amongst children and adolescents

According to Pitre *et al.* (2007:415–429) the use of puppetry as an anti-stigma programme reduced mental illness stigma and improved literacy in adolescents 'significantly on three of the six factors of the opinions about mental illness, including, separatism, restrictiveness and stigmatisation.' The intervention showed that the children believed that people with mental illness were less distinct, less of a threat, and less shameful, without the need to keep them at a safe distance, restrict their activities and hide their mental illness.

A further study examined effectiveness of an educational intervention aimed at reducing negative attitudes towards mental illness and mental health seeking or treatment by adolescents and reported openness about and interest in treatment (Saporito *et al.* 2011:9–21). These authors further found that psycho-education and contact (via DVD) was effective in reducing explicit stigma in adolescents. In another intervention with adolescents, Spagnolo *et al.*



(2008:186–193) found that stigma could be reduced by meeting and learning from people with mental illness in public education programmes. This study further proved that if accurate information about mental illness and the real possibility of recovery (including consumers in the development and facilitation of the presentation, and sharing personal stories of recovery) are incorporated into a presentation, stigmatising attitudes are decreased.

An 'In Our Own Voice' programme was also used as one of the interventions in reducing mental illness stigma and improving mental health literacy in adolescents (Pinto-Foltz, Logsdon & Myers 2011:2011–2019). 'In Our Own Voice' is a knowledge-contact intervention that provides knowledge about mental illness to improve mental health literacy and facilitates intergroup contact with persons with mental illness as a means to reduce mental illness stigma. However, whilst 'In Our Own Voice' improved mental health literacy, it did not improve stigma reduction. Therefore further research is needed on 'In Our Own Voice' as an intervention to reduce stigma attached to mental illness for adolescents.

In light of the measures to ensure rigour, as discussed, it could be concluded that the systematic review was conducted in a scientific and trustworthy manner. A comprehensive literature search was conducted, and literature was appraised according to objectively structured and validated instruments. Transparency was ensured by involving an independent reviewer and by describing the research process in detail. Thematic analysis was employed to analyse the data and synthesise findings.

In general, the currently available literature was of high quality and the evidence could be rated as strong. The results of these studies could thus be included in the critical synthesis on interventions to reduce stigma attached to mental illness. The dearth of South African literature on this topic is obvious, indicating a need for further research on the effectiveness of interventions in the South African context.

Current best evidence on interventions to reduce stigma attached to mental illness focuses on mental healthcare professionals, the general population, students and adolescents. A recurring theme throughout is education, obtaining legal support against discrimination, and promotion of personal contact with persons with mental illness, which seems to have a humanising effect and leads to increased understanding and empathy.

Conclusions on implications for healthcare produced a critical synthesis of effective interventions to reduce stigma attached to mental illness (see Box 1).

Ethical considerations

The research proposal was submitted to and approved by the Research Committee of the School of Nursing Science, Faculty of Health Sciences, North-West University, Potchefstroom Campus. During the systematic review

integrity was upheld through stating both supporting and opposing points of view found in the data. Plagiarism was avoided, and all studies included in the review were critically appraised using quality checklists. Throughout the study scientific honesty was upheld.

Limitations of the study

More studies looked at effective interventions on schizophrenia and fewer at bipolar mood disorders and drug abuse, therefore the study cannot generalise the findings to all psychiatric conditions. Limitations were noted in studies that had students as participants. It was not always feasible or ethical to include a no intervention control group, as the schools expected their students to receive something for their participation. A further limitation was that only the North-West University's electronic database was used. This is a limitation as relevant data may have been omitted. This limitation was addressed through repeated consultations with librarians and repeated literature searches until no new sources could be found.

Recommendations

As this systematic review was done as part of a Master's degree in Psychiatric Nursing, recommendations for nursing practice and nursing education were drawn from the findings, specifically with regard to best available evidence on interventions to reduce stigma attached to mental illness. Recommendations for further research could also be formulated, as outlined below.

Recommendations for nursing practice

Psychiatric nurses should reduce stigma amongst healthcare professionals by encouraging the use of those interventions found to be effective in reducing stigma amongst mental

BOX 1: A critical synthesis of effective interventions to reduce stigma attached to mental illness.

Mental health professionals

- Use Internet as an outreach tool to disseminate anti-stigmatisation information to mental health professionals.
- Use computer-assisted education and reading of printed educational materials to educate mental health professionals about mental illness, followed up with humanising/personalising interventions such as role-play, use of narratives written by persons diagnosed with a mental illness, personal encounters with real persons suffering from mental illness, such as live, video-recorded and/or theatrical presentations.

General population

- Use key elements such as education, protest against stigma and discrimination, and contact with persons with mental illness.
- Use strategies such as improving mental health care and psycho-education for patients and families, involving patients and family members, anti-stigma education in the training of healthcare providers, public educational activities, and promoting social and legal action to reduce discrimination.

Students

- Use live or recorded presentations, and documentary films about persons with mental illness, for example in life skills classes for students, to reduce stigma, increase knowledge and improve attitudes towards persons with mental illness.
- Implement anti-stigma campaigns to support students diagnosed with mental illness and to attend to the mental health needs of students, for example peer support, access to mental health services and litigation about supporting the mental health needs of students.

Children and adolescents

- Use puppetry in anti-stigma programmes with children.
- Use media such as DVDs to do psycho-education.
- Create opportunities for personal contact during public education programmes, for example meeting and learning from people with mental illness, specifically accurate information on mental illness and recovery from mental illness.



healthcare professionals, the general population, students, children and adolescents (see Box 1). Psychiatric nurses should inform, educate, and equip healthcare professionals with regard to the mentioned interventions. Psychiatric nurses should take the lead in designing awareness and educational campaigns to reduce stigma, in order to implement the mentioned interventions.

Recommendations for nursing education

This latest available evidence can be included in nursing curriculums to inform, educate and equip nurses with special skills to safely and effectively execute nursing care in hospitals and community healthcare centres.

Recommendations for further research

Research on implementation of the interventions with persons diagnosed with a wide range of mental illnesses, as well as with different groups in communities (specifically in the diverse South African context) will yield further valuable results on effectiveness of these interventions. Further research on presenting positive images of persons with mental illness is also needed. Further research on the interventions themselves might also be valuable, for example on the 'In Our Own Voice' campaign, which did not reduce mental illness stigma but improved mental health literacy.

Conclusion

A critical synthesis of interventions to reduce such stigma could be provided based on the findings of this research. Further research on the implementation and effectiveness of these interventions should be conducted.

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Competing interests

The authors declare that they have no financial or personal relationship(s) with other people or organisations that could have potentially prevented them from executing and publishing unbiased research.

Authors' contributions

K.B.S. (North-West University) conducted the research under the supervision of E.dP. (North-West University) and M.P.K. (North-West University), and drafted the manuscript. E.d.P. and V.K. (North-West University) finalised the manuscript, and M.P.K. acted as critical reader.

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